THE pebble PARTNERSHIP

May 29, 2013

The Honorable Bob Perciasepe
Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Dennis J. McLerran, Regional Administrator
U.S. Environmental Protection Agency, Region 10
Regional Administrator's Office, RA-140
1200 6th Avenue, Suite 900
Seattle, WA 98101

Re: Second External Review Draft: "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (April 2013)

Dear Messrs. Perciasepe and McLerran:

I am writing to you on behalf of the Pebble Limited Partnership ("PLP") about the Second External Review Draft: "An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska" (April 2013) ("Assessment"). On May 23 I sent you a letter by electronic mail explaining many of my concerns about this project, including, among other things, EPA's use of biased reports (that also have little scientific value) written by avowed opponents of the Pebble Project. In that letter I discussed six reports that EPA had chosen to peer review with the apparent purpose of bolstering support for a particular point of view. EPA has (to my knowledge) never publicly listed such reports, and I believed that those six comprised all of them.

I have recently discovered that EPA peer reviewed at least one more such report. The peer reviewers themselves identified the biased nature of the seventh report, as they did with the others. Their comments reveal how bias rendered the report's conclusions suspect.

Peer Review of Seventh Report By Mine Opponents

This seventh report is entitled *Potential Hydrologic and Water Quality Alternation from Large-scale Mining of the Pebble Deposit in Bristol, Bay, Alaska: Results from an Integrated Hydrologic Model of a Preliminary Mine Design (Wobus 2012).*

This report was prepared for The Nature Conservancy by Cameron Wobus and Ann Maest of Stratus Consulting. Its goal was to develop a hydrologic model of the Pebble deposit

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area to "improve the understanding of the potential effects of mining" on local hydrology and water quality. *Wobus 2012* at 2. In the conclusion section, after noting that data uncertainties "limit the ability of the model to make specific numeric predictions," the authors conclude that if leachate management systems fail, copper concentrations would likely exceed water quality criteria "with potential for significant adverse effects" on salmonids and other aquatic biota. *Id.* at 39.

EPA selected Michael Gooseff, Andrew Ireson, Thomas Meixner, and John Stednick to peer review this report. All of them identified significant problems with the model, the report, and the lack of support for the conclusions. Mr. Stednick, who also was selected to be a peer reviewer of the Assessment, observed that "the writing and tone of the report suggests less than an objective approach." *Final Peer Review of Wobus et al. 2012: Potential Hydrologic and Water Quality Alternation from Large-scale Mining of the Pebble Deposit in Bristol Bay, Alaska (November 2, 2012) at 4.* After quoting some of the report's conclusions, Mr. Stednick wrote that "None of these observations are defended in the report and suggest a lack of objectivity. This lack of objectivity tempers the study results and leaves me questioning other results." *Id.* at 12. He later explained that, among other things, "Quantitative model results are not presented and some of the comments read like editorial opinions rather than reporting scientific results. . . . model efforts were not adequately described. Comments like 'a very good qualitative fit' and 'does predict the general degree and direction of potential impacts' (both on page 39) are value judgments rather than conclusions." *Id.* at 5.

Mr. Ireson concluded that "the credibility of the model is questionable. . . ." *Id.* at 13. He noted that "The conclusions are weakly supported by the evidence provided. . . .The conclusions about mine impacts are dependent on the model and, therefore, those too are not strongly supported." *Id.* at 5. Mr. Gooseff, after expressing doubts about the accuracy of key representations in the model (*Id.* at 7) concluded that it "should not be considered a prognostication for the future. (*Id.* at 8).

Mr. Meixner wrote that the report's assumption that copper is "conserved" (does not interact chemically with other substances in the soil or water as it moves) "is flawed." *Id.* at 10. Elsewhere he described that assumption as "highly unlikely" (*Id.* at 3) and "reason for concern"). *Id.* at 13. Mr. Stednick (*Id.* at 11) and Mr. Gooseff (*Id.* at 8) made similar observations. Mr. Gooseff wrote that "the lack of any potential interaction of the dissolved copper in the stream as it travels . . . suggests this is perhaps a worst-case result for this site." *Id.*

The reviewers had similar concerns about the authors adding one standard deviation to the concentration of the waste rock leachate. Mr. Ireson wrote that "one standard deviation was added to the concentrations of the waste rock leachate . . . . There is no justification provided for the choice of adding one standard deviation, and this could be seen as an attempt to bias the outcome of the study . . . ." *Id.* at 9. Mr. Stednick similarly noted at "No justification for the [one standard deviation] inflation was provided . . . ." *Id.* at 4.

None of the reviewers expressed confidence in the model that served as the foundation of this report. The report suffers from inadequate data (site geology and hydrology), unrealistic

chemistry (conservation of copper), arbitrary inflation of data (adding one standard deviation to the copper leachate concentration), and unsupported conclusions about mine impacts.

EPA's decision to arrange for peer review of slanted studies appears to be an attempt to bolster one side of an argument. The Agency's time and money would be better spent evaluating the real science that has been carefully reported in the Pebble Project's Environmental Baseline Document.

Bias of the Authors of the Seventh Peer Reviewed Study

It is hardly surprising that the peer reviewers found bias in the foregoing study. The authors are opponents of the Pebble Project that are identified as having assisted The Center for Science in Public Participation ("CSP2"), which opposes mining in general and the Pebble project specifically. Its website is at http://www.csp2.org/. The website's project page discusses its activities opposing Pebble. The website explains in relevant part:

> Since 2007 CSP2 has been providing technical support to a loose coalition of groups opposed to the proposed [Pebble] mine . . . . CSP2 also utilized consultants Ann Maest, Ph.D., and Cam Wobus, Ph.D., from Stratus Consulting to provide technical support on geochemistry and hydrology.

EPA chose to peer review only papers submitted by opponents of Pebble. There were a number of other studies submitted by us and others who support our right to go through the permitting process, but EPA did not peer review any of them. EPA's bias is apparent to anyone who reviews your process with an open mind.

We request that the Wobus (2012) report be removed from the final Assessment.

We also request EPA to identify any other reports that underwent an external peer review before EPA incorporated them into the Assessment. *See* Assessment at 2-3.

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Thank you for your consideration of my concerns. I look forward to your response.

Sincerely,

John Shively
Chief Executive Officer

Cc: Mr. Richard Parkin